

LISTING OF CLAIMS:

Claims 1 - 10 (cancelled)

3
Claim 11. (previously presented) An exothermal feeder mass comprising aluminum, magnesium, at least one oxidizing agent, a SiO₂-containing filler and an alkali silicate as a binder, wherein the mass further comprises about 2.5 to about 20 percent by weight of a reactive aluminum oxide with a specific surface area of at least about 0.5 m²/g and an average particle diameter (d₅₀) from about 0.5 to about 8 microns, and wherein the mass is essentially free of fluoride.

Claim 12. (previously presented) The feeder mass of Claim 11 wherein the reactive aluminum oxide has a specific surface area of about 1 to about 10 m²/g.

Claim 13. (previously presented) An essentially fluoride free exothermal feeder mass comprising about 20 to about 35 percent by weight aluminum, about 1.5 to about 10 percent by weight magnesium, about 8 to about 20 percent by weight of an oxidizing agent, about 4 to about 18 percent by weight of a reactive aluminum oxide, about 8 to about 22 percent by weight of an alkali silicate and about 58.5 to about 17 percent by weight of a temperature resistant SiO₂-containing filler.

Claim 14. (previously presented) The feeder mass of Claim 13 wherein the aluminum comprises from about 22 to about 28 percent by weight.

Claim 15. (previously presented) The feeder mass of Claim 13 wherein the magnesium comprises from about 2 to about 7 percent by weight.

20 Claim 16. (previously presented) The feeder mass of Claim 13 wherein the oxidizing agent comprises about 10 to about 15 percent by weight.

Claim 17. (previously presented) The feeder mass of Claim 13 wherein the reactive aluminum oxide comprises about 8 to about 13 percent by weight.

Claim 18. (previously presented) The feeder mass of Claim 13 wherein the alkali silicate comprises from about 10 to about 13 percent by weight.

Claim 19. (previously presented) The feeder mass of Claim 13 wherein the alkali silicate comprises from about 17 to about 22 percent by weight.

Claim 20. (previously presented) The feeder mass of Claim 13

wherein the temperature-resistant SiO_2 -containing filler comprises from about 43 to about 29 percent by weight.

Claim 21. (previously presented) The feeder mass of Claim 11 wherein the oxidizing agent comprises iron oxide.

Claim 22. (previously presented) The feeder mass of Claim 13 wherein the oxidizing agent comprises iron oxide.

Claim 23. (previously presented) The feeder mass of Claim 11 wherein the oxidizing agent comprises an alkali nitrate.

Claim 24. (previously presented) The feeder mass of Claim 13 wherein the oxidizing agent comprises an alkali nitrate.

Claim 25. (previously presented) The feeder mass of Claim 11 wherein the SiO_2 -containing filler has a SiO_2 content of at least about 50 percent by weight.

Claim 26. (previously presented) The feeder mass of Claim 13 wherein the temperature resistant SiO_2 -containing filler has a SiO_2 content of at least about 50 percent by weight.

Claim 27. (previously presented) The feeder mass of Claim 11 wherein the SiO_2 -containing filler has a SiO_2 content of at least

about 60 percent by weight.

Claim 28. (previously presented) The feeder mass of Claim 13 wherein the temperature resistant SiO_2 -containing filler has a SiO_2 content of at least about 60 percent by weight.

2
Claim 29. (previously presented) The feeder mass of Claim 11 wherein the SiO_2 -containing filler is comprised of a material selected from the group consisting of quartz, sand and aluminum silicates and combinations thereof.

Claim 30. (previously presented) The feeder mass of Claim 13 wherein the temperature resistant SiO_2 -containing filler is comprised of a material selected from the group consisting of quartz, sand and aluminum silicates and combinations thereof.

Claim 31. (previously presented) The feeder mass of Claim 13 wherein the temperature resistant SiO_2 -containing filler is formed in a shape selected from the group consisting of hollow microspheres, ground chamotte and mineral fibers and combinations thereof.

Claim 32. (previously presented) The feeder mass of Claim 11 wherein the properties of the reactive aluminum oxide comprise the

following:

an Al_2O_3 content greater than about 90 percent,
a content of OH-groups up to about 5 percent,
a specific surface area (BET) from about 1 to about 10
 m^2/g , and
an average particle diameter (d_{50}) from about 0.5 to about
15 microns.

2
Claim 33. (previously presented) The feeder mass of Claim 13
wherein the properties of the reactive aluminum oxide comprise the
following:

an Al_2O_3 content greater than about 90 percent,
a content of OH-groups up to about 5 percent,
a specific surface area (BET) from about 1 to about 10
 m^2/g , and
an average particle diameter (d_{50}) from about 0.5 to about
15 microns.

Claim 34. (previously presented) A process for reducing hollow
fire in an essentially fluoride-free feeder mass comprising
preparing the feeder mass utilizing the compositions of Claim 11.

Claim 35. (previously presented) A process for reducing hollow
fire in an essentially fluoride-free feeder mass comprising

preparing the feeder mass utilizing the compositions of Claim 13.

Claim 36. (previously presented) A process for preventing graphite degeneration in a feeder neck area and in an area which extends into a feeder mass comprising casting the feeder mass using the composition of Claim 11.

Claim 37. (previously presented) A process for preventing graphite degeneration in a feeder neck area and in an area which extends into a feeder mass comprising casting the feeder mass using the composition of Claim 13.
